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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/542,147	09/06/2005	Hiroshi Yamada	124683	9782
25944	7590	05/19/2006	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			LIU, BENJAMIN T	
			ART UNIT	PAPER NUMBER
			2826	

DATE MAILED: 05/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

<b>Office Action Summary</b>	Application No. 10/542,147	Applicant(s) YAMADA ET AL.	
	Examiner Benjamin T. Liu	Art Unit 2826	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

*Minhloan Tran*  
**Minhloan Tran**  
**Primary Examiner**  
**Art Unit 2826**

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>09/06/05</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102(b)***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-8 are rejected under 35 U.S.C 102(b) as being anticipated by Saito et al. (5,401,330).

With regard to claim 1, figure 1 of Saito et al. discloses a photoelectric transducer comprising a first pin junction part including: a first p-layer 106; a first n-layer 104 disposed so as to oppose the first p-layer 106; and a first i-layer 105, disposed between the first p-layer 106 and first n-layer 104, containing an iron atom, a silicon atom bonded to the iron atom, and a hydrogen atom. (Note line 25 in column 1, lines 38-40 in column 4, and lines 22-26 in column 11 of Saito et al.)

With regard to claim 2, figure 1 of Saito et al. discloses a photoelectric transducer, wherein the first i-layer 105 is formed by at least partly bonding the hydrogen atom to the silicon atom or iron atom. (Note line 25 in column 1, lines 38-40 in column 4, and lines 22-26 in column 11 of Saito et al.)

With regard to claim 3, figure 1 of Saito et al. discloses a photoelectric transducer, wherein the first i-layer 105 is mainly amorphous. (Note lines 19-20 in column 1 of Saito et al.)

With regard to claim 4, figure 1 of Saito et al. discloses a photoelectric transducer, wherein the first i-layer 105 has a hydrogen atom content of 1 to 25 atom %, which is in the range from 1 to 40 atom %. (Note lines 36-37 in column 11 of Saito et al.)

With regard to claim 5, figure 1 of Saito et al. discloses a photoelectric transducer, wherein the first pin junction part further comprises a second i-layer, which could be a part of i-layer 105, disposed between the first p-layer 106 and first n-layer 104 and constituted by a mainly amorphous silicon film. (Note line 25 in column 1, lines 38-40 in column 4, and lines 22-26 in column 11 of Saito et al.)

With regard to claim 6, figures 1 and 2 of Saito et al. disclose a photoelectric transducer, further comprising a second pin junction (206b, 205b, 204b) part, disposed in series with the first pin junction (206a, 205a, 204a) part, including: a second p-layer 206b; a second n-layer 204b disposed so as to oppose the second p-layer 206b; and a third i-layer 205b disposed between the second p-layer 206b and second n-layer 204b and made of an amorphous silicon film. (Note lines 19-20 in column 1 of Saito et al.)

With regard to claim 7, figure 1 of Saito et al. discloses a photoelectric transducer apparatus comprising: a substrate; a first electrode layer 101 disposed on one side of the substrate; a second electrode layer 107 disposed so as to oppose the first electrode layer 101; and a first pin junction part including a first n-layer 104 formed on the first electrode layer 101, a first p-layer 106 formed on one side of the second electrode layer 107 so as to oppose the first n-layer 104, and a first i-layer 105, disposed between the first p-layer 106 and first n-layer 104, containing an iron atom, a silicon atom bonded to

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the iron atom, and a hydrogen atom. (Note line 25 in column 1, lines 38-40 in column 4, lines 22-26 in column 11, and lines 52-55 in column 16 of Saito et al.)

With regard to claim 8, figure 1 of Saito et al. discloses an iron silicide film for constructing an i-layer 105 in a pin junction; the iron silicide film containing an iron atom, a silicon atom bonded to the iron atom, and a hydrogen atom while being mainly amorphous. (Note line 25 in column 1, lines 38-40 in column 4, and lines 22-26 in column 11 of Saito et al.)

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin T. Liu whose telephone number is (571) 272-6009. The examiner can normally be reached on Mon-Fri 9:30 AM-6:00AM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on 571 272 1915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BTL

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5/10/2006